

This document provides permit information concerning the discharge of wastewater from a wastewater treatment plant with processed as a **Minor, Municipal** permit. The discharge results from the operation of a 0.0045 MGD wastewater treatment plant with proposed expansion design flow tiers of 0.01 MGD and 0.02 MGD. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS (effective January 6, 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1. Facility Name and Mailing Address: Locust Grove Town Center STP
33225 Constitution Hwy.
Locust Grove, VA 22508
SIC Code: 4952

Facility Location: 32301 Constitution Hwy.
Locust Grove, VA 22508
County: Orange

Facility Contact Name: Kenneth and Lora Dotson
Telephone Number: 540-840-5335
2. Permit No.: VA0091961
Expiration Date of previous permit: 3/8/2012

Other VPDES Permits associated with this facility: None
Other Permits associated with this facility: PWSID No. 6137003
E2/E3/E4 Status: NA
3. Owner Name: Kenneth and Lora Dotson
Owner Contact/Title: Owners
Telephone Number: 540-840-5335
4. Application Complete Date: 9/14/2011
Permit Drafted By: Anna Westernik
Date Drafted: 11/3/2011
Draft Permit Reviewed By: Alison Thompson
Date Reviewed: 11/28/2011
WPM Review By: Bryant Thomas
Date Reviewed: 12/11/2011
Public Comment Period: Start Date: 5/11/2012
End Date: 6/11/2012
5. Receiving Waters Information:
Receiving Stream Name: Flat Run, UT
Stream Code: 3-XHA
Drainage Area at Outfall: 0.08 sq.mi.
River Mile: 0.10
Stream Basin: Rappahannock River
Subbasin: None
Section: 4
Stream Class: III
Special Standards: None
Waterbody ID: VAN-E18R
7Q10 Low Flow: 0.0 MGD
7Q10 High Flow: 0.0 MGD
1Q10 Low Flow: 0.0 MGD
1Q10 High Flow: 0.0 MGD
30Q10 Low Flow: 0.0 MGD
30Q10 High Flow: 0.0 MGD
Harmonic Mean Flow: 0.0 MGD
30Q5 Flow: 0.0 MGD
303(d) Listed: No
TMDL Approved: Yes
Date TMDL Approved: 12/5/2007 (Rapidan River)
Downstream Bacteria
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:
 - ✓ State Water Control Law
 - ✓ Clean Water Act
 - ✓ VPDES Permit Regulation
 - ✓ EPA NPDES Regulation

EPA Guidelines
✓ Water Quality Standards
Other
7. Licensed Operator Requirements: Class IV

8. Reliability Class: Class II

9. Permit Characterization:

<input checked="" type="checkbox"/> Private	_____ Effluent Limited	_____ Possible Interstate Effect
_____ Federal	<input checked="" type="checkbox"/> Water Quality Limited	_____ Compliance Schedule Required
_____ State	_____ Toxics Monitoring Program Required	_____ Interim Limits in Permit
_____ POTW	_____ Pretreatment Program Required	_____ Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

10. Wastewater Sources and Treatment Description:

The treatment plant serving this facility includes septic tanks, an aerated surge/transfer pump tank, three package Multi-Flo aerobic treatment plants, a tablet chlorinator, a chlorine contact tank, a constructed wetland, auxiliary mechanical post aeration in the wetland withdrawal structure, wetland bypass tablet dechlorination, and step post aeration.

Three sewer lines exit the building housing a convenience store and pizza shop. Two lines enter individual septic tanks and join prior to entering the sewage treatment plant. One line enters a grease interceptor serving the convenience store and subsequently the sewer line leading to the septic tank. The pizza parlor has a grease trap inside the building. Three sewer lines exit the building containing Robinson's Tavern. Liquid flow from the septic tanks overflows to a 5,000 gallon aerated pump tank that pretreats the sewage leaving the tanks before it enters the Multi-Flo Treatment Units. Three treatment units, each rated to treat a flow of 1,500 gpd, have been provided for secondary treatment.

After the effluent leaves the Multi-Flo Treatment Units, it is treated by an alum feed system for phosphorus reduction and is disinfected via tablet chlorination. An auxiliary polishing wetland has been provided after chlorination to assist in the removal of nutrients. The wetland can be bypassed in cold weather or during maintenance events. When the Certificate to Operate was issued in March 2008, the constructed wetland was considered a redundant part of the treatment plant design and the wetland was assigned no treatment credit.

Sodium sulfite tablet dechlorination is provided whenever the wetland is bypassed and may be used after the wetland if the operator feels it is needed to ensure that the chlorine limits are met when the effluent is discharged to state waters.

Mechanical post-aeration at the wetland and final post-aeration at the receiving stream using cascade, step aeration is provided before discharge.

See **Attachment 1** for a facility schematic/diagram.

TABLE 1 – Outfall Description				
Outfall Number	Discharge Sources	Treatment	Design Flows	Outfall Latitude and Longitude
001	Commercial Wastewater	See Item 10 above.	0.0045 MGD; 0.01 MGD; 0.02 MGD	38° 18' 36.5" N 77° 48' 30.1" W
See Attachment 2 for Topographic Map 184D (Mine Run).				

11. Sludge Treatment and Disposal Methods:

A licensed septage hauler is used for routine cleaning of the septic tanks and the remainder of the treatment plant. There is no processing of sludge material onsite; all sludge is transported to the Little Falls Run WWTP (VA0076392) in Stafford County for blending by Joe Wheeler's Septic Tank Service (VDH RAHD 17).

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2 – Dischargers, Monitoring Stations, and Intakes in Waterbody VAN-EI8R		
Permit Number/Station ID	Description	Stream
Individual Permits		
VA0074381	Camp Happyland	Hazel Run, UT
VA0081621	Lake Wilderness PWS	Grant Lake, UT
VA0083411	Wilderness WWTP	Rapidan River
Single Family Homes General Permits		
VAG406430	Mine Run Market	Mine Run, UT
VAG406428	Orange Associates LLC Property	Potato Run, UT
Storm Water Industrial General Permits		
VAR050794	T C Catlett and Sons Lumber Company Inc.	Little Hunting Run, UT
Active Monitoring Stations		
3-HAE001.00	DEQ Ambient Watershed Monitoring Station	Hazel Run
3-RAP003.76	DEQ Biological Monitoring Station	Rapidan River
3-RAP006.53	Ambient Trend, Biological, Fish Tissue Monitoring Station	Rapidan River
3-RAP-C14-SOS	Citizen Monitoring Station	Rapidan River
3-RUL000.39	DEQ Ambient Watershed Monitoring Station	Russell Run
Intakes		
PWSID Nos. 6177252 and 6177251	Lake of the Woods WTP Intake	Rapidan River

13. Material Storage:

TABLE 3 - Material Storage		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Chlorine Tablets	Two Five-Gallon Buckets	Stored Inside Building
Dechlorination Tablets (Sodium Sulfite)	Two Five-Gallon Buckets	Stored Inside Building
Alum	90 Gallons	Stored Inside Building

14. Site Inspection: Performed by Anna Westernnik and April Young on November 21, 2011 (see Attachment 3).

15. Receiving Stream Water Quality and Water Quality Standards:

a) Ambient Water Quality Data

Outfall 001 discharges to an unnamed tributary of Flat Run at Rivermile 0.10. This unnamed tributary discharges into another unnamed tributary of Flat Run at Rivermile 1.58, Flat Run, and Lake of the Woods. After Flat Run exits Lake of the Woods, it enters the Rapidan River. There are no monitoring stations on the unnamed tributaries or Flat Run.

At Rivermile 6.53 of the Rapidan River, approximately 10.4 miles from the Outfall 001 discharge, DEQ has a monitoring station (3-RAP006.53) located at the Route 610 bridge crossing. The 2010 water quality assessment found a bacterial impairment, resulting in an impaired classification for the recreation use. DEQ benthic macroinvertebrate biological monitoring finds this segment to be non-impaired. However, citizen monitoring at Station 3RAP-C14-SOS on the Rapidan River determines a medium probability of adverse conditions for biota. In 2006, three excursions above the fish tissue value of 300 ppb for mercury in fish tissue were recorded in three species of fish at Monitoring Station 3-RAP006.53 on the Rapidan River.

There is a completed downstream TMDL for nutrient impairments for the Chesapeake Bay. This facility does not have nutrient concentration limits. The facility is not individually identified in the Chesapeake Bay TMDL. It is included in the aggregate TMDL for non-significant dischargers.

See **Attachment 4** – Planning Statement

b) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Flat Run, UT, is located within Section 4 of the Rappahannock River Basin, and is a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

1) Ammonia:

The Certificate to Operate (CTO) for the Locust Grove Town Center STP was issued on March 26, 2009. Staff has reevaluated the effluent data for pH and temperature for the time period of August 1, 2010 through September 30, 2011 and has found the 90th percentile pH and temperature to be 7.8 S.U. and 23°C, respectively (see **Attachment 5**). Because the 30Q10 and 1Q10 of the receiving stream are 0.0 MGD, effluent pH and temperature data is used to establish the ammonia water quality criteria.

2) Metals Criteria:

Metals criteria were determined using a default hardness value of 50 mg/L for the stream and effluent.

3) Bacteria Criteria:

The Virginia Water Quality Standards at 9VAC25-260-170 A states that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli per 100 ml of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean ¹
Freshwater <i>E. coli</i> (N/100 ml)	126

¹For a minimum of four weekly samples taken during any calendar month.

Attachment 6 details other water quality criteria applicable to the receiving stream.

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Flat Run, UT, is located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on October 18, 2011 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a two mile radius of the discharge: Dwarf Wedgemussel, Upland Sandpiper, Loggerhead Shrike, Bald Eagle, and Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The Locust Grove Town Center discharges to an unnamed tributary of Flat Run, which is considered an ephemeral stream. It is staff's best professional judgment that such streams are Tier I as the stream flow is at times comprised entirely of effluent. Permit limits proposed have been established by determining wasteload allocations that will result in attaining and/or maintaining all water quality criteria that apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows (1Q10, 7Q10, 30Q10) have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration values is greater than the chronic WLA. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:

Temperature and pH information in the Discharge Monitoring Reports (DMRs) bench sheets has been reviewed and is suitable for evaluation of ammonia criteria. It will be used in determination of ammonia limits.

b) Mixing Zones and Wasteload Allocations (WLAs):

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:	WLA	= Wasteload allocation
	C _o	= In-stream water quality criteria
	Q _e	= Design flow
	Q _s	= Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; 30Q10 for ammonia criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
	f	= Decimal fraction of critical flow
	C _s	= Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 1Q10, 7Q10, and 30Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

Staff derived WLAs where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge for the Locust Grove Town Center STP, ammonia as N is likely present since this is a sewage treatment plant, and total residual chlorine may be present since chlorine is used for disinfection. **Attachment 6** details the water quality criteria and WLA derivations for these pollutants.

c) Effluent Limitations Toxic Pollutants, Outfall 001

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N/ Total Kjeldahl Nitrogen (TKN):

In the last permit reissuance, DEQ used a monthly average TKN limitation of 3.0 mg/L to control both ammonia and DO levels. It is generally accepted that TKN consists of approximately 60% ammonia in raw wastewater. As the waste stream is treated, the ammonia component of TKN is converted to Nitrate (NO_3) and Nitrite (NO_2). It is estimated that a facility achieving a TKN limit of 3.0 mg/L essentially removes ammonia from the waste stream, resulting in a 'self-sustaining' quality effluent that protects against ammonia toxicity.

The toxicity of ammonia is dependent on the pH of the effluent and/or receiving stream. Ammonia can exist as both "ionized ammonia" (NH_4) and "un-ionized ammonia" (NH_3) forms. Research has shown that the un-ionized ammonia is the fraction that is toxic to aquatic life, while the ionized ammonia has been found to have little or no toxic effect. Furthermore, it has been demonstrated that the un-ionized fraction increases correspondingly with rising pH values; thus, increasing potential toxicity.

Staff has recalculated WLAs for ammonia using newly-calculated criteria and the current critical flows (see Section 15.b of this fact sheet). In accordance with current DEQ guidance, staff used a default data point of 9.0 mg/L and the calculated WLAs to derive limits. An ammonia monthly and weekly average of 3.7 mg/L was derived for this discharge (see **Attachment 7**). Since it is estimated that a TKN limit of 3.0 mg/L will effectively remove ammonia, the current TKN limit of 3.0 mg/L is deemed to be protective of the receiving stream and shall remain in this permit. As in the previous reissuance, the weekly average TKN limit will be 4.5 mg/L based on a multiplier of 1.5 times the monthly average.

2) Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. A monthly average of 0.008 mg/L and a weekly average limit of 0.010 mg/L are proposed for this discharge (see **Attachment 7**).

d) Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Carbonaceous Biochemical Oxygen Demand-5 day (cBOD_5), Total Suspended Solids (TSS), pH, Dissolved Oxygen (D.O.), and *E. coli* limitations are proposed.

Flat Run, UT upstream of the impoundment (Lake of the Woods) is an area that cannot be modeled using the agency's free flowing stream model for dissolved oxygen. This small discharge is not likely to cause a continuous free-flowing stream. It is likely that it will cause small pools of water with long detention times. Therefore, the pollutant limitations for cBOD_5 , TSS, and TKN are based on agency guidelines for waters that cannot be easily modeled. A discharge meeting these limitations will not normally violate the stream standards even if the stream consists of 100% effluent. Due to poor mixing and low velocity found in the discharge area of the receiving stream, it is necessary to apply these self-sustaining limitations to this permit. Models cannot be applied to discharges entering a receiving stream with poor mixing and low velocity because the model assumes a free-flowing stream.

pH limitations are set at the water quality criteria.

The VPDES Manual dated January 27, 2010 suggests a D.O. limitation of 5.0 mg/L be used for waters that cannot be easily modeled. However, staff determined that a D.O. limitation of 7.0 mg/L for the Locust Grove STP would ensure that the effluent would not cause a violation of the D.O. criteria based on staff's professional judgment and experience with similar situations.

E. coli limitations are in accordance with the Water Quality Standards 9 VAC25-260-170.

e) Effluent Annual Average Limitations and Monitoring, Outfall 001 – Nutrients

VPDES Regulation 9VAC25-31-220(D) requires effluent limitations that are protective of both the numerical and narrative water quality standards for state waters, including the Chesapeake Bay.

Total Phosphorus limitations are based on staff's best professional judgment. It is staff's experience that sewage treatment plant discharges without phosphorus controls will cause algal blooms in ponds, small impoundments, and still waters in general. Since there is no model or chlorophyll criteria by which to derive a phosphorus limit, staff use their experience with facilities that must comply with the 2.0 mg/L requirements of the Nutrient Policy and require the same limit. This limit has been shown to provide sufficient control on phosphorus to avoid nuisance algal blooms. The regulatory basis for this approach is 9VAC25-31-220 D.

f) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following tables. Limits were established for cBOD₅, TSS, TKN, pH, D.O., Total Phosphorus, *E. coli*, and Total Residual Chlorine.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD/cBOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water-quality-based effluent limits and result in greater than 85% removal.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19.a Effluent Limitations/Monitoring Requirements:

Design flow is 0.0045 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the issuance of the Certificate to Operate (CTO) for the 0.01 MGD wastewater treatment plant, the 0.02 MGD wastewater treatment plant, or the permit expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		NA		NA	NL	1/D	Estimate
pH	1	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
CBOD ₅	1, 2	10 mg/L	0.17 kg/day	15 mg/L	0.26 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	2	10 mg/L	0.17 kg/day	15 mg/L	0.26 kg/day	NA	NA	1/M	Grab
DO	1, 2	NA		NA		7.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	1, 2	3.0 mg/L	0.05 kg/day	4.5 mg/L	0.08 kg/day	NA	NA	2/M	Grab
<i>E. coli</i> (Geometric Mean) ^a	1	126 n/100mL		NA		NA	NA	1/W ^b	Grab
Total Residual Chlorine (after contact tank)	3	NA		NA		1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	1	0.008 mg/L		0.010 mg/L		NA	NA	1/D	Grab
Total Phosphorus	1, 2	2.0 mg/L	0.034 kg/day	NA		NA	NA	1/M	Grab

The basis for the limitations codes are:

1. Water Quality Standards
2. Best Professional Judgment
3. DEQ Disinfection Guidance

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

1/D = Once every day.

1/M = Once every month.

1/W = Once every week.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

- a. Samples shall be collected between 10:00 a.m. and 4:00 p.m.
- b. The permittee shall sample and submit *E. coli* results at the frequency of once every week for three (3) months. If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

19.b Effluent Limitations/Monitoring Requirements:

Design flow is 0.01 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the issuance of the Certificate to Operate (CTO) for the 0.02 MGD wastewater treatment plant or the permit expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		NA		NA	NL	1/D	Estimate
pH	1	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
CBOD ₅	1, 2	10 mg/L	0.38 kg/day	15 mg/L	0.57 kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	2	10 mg/L	0.38 kg/day	15 mg/L	0.57 kg/day	N/A	N/A	1/M	Grab
DO	1, 2	NA		NA		7.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	1, 2	3.0 mg/L	0.11 kg/day	4.5 mg/L	0.17 kg/day	N/A	N/A	1/M	Grab
<i>E. coli</i> (Geometric Mean) ^a	1	126 n/100mL		NA		NA	NA	1/W ^b	Grab
Total Residual Chlorine (after contact tank)	3	NA		NA		1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	1	0.008 mg/L		0.010 mg/L		NA	NA	1/D	Grab
Total Phosphorus	1, 2	2.0 mg/L	0.076 kg/day	NA		N/A	NA	1/M	Grab

The basis for the limitations codes are:

1. Water Quality Standards
2. Best Professional Judgment
3. DEQ Disinfection Guidance

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

1/D = Once every day.

1/M = Once every month.

1/W = Once every week.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

- a. Samples shall be collected between 10:00 a.m. and 4:00 p.m.
- b. The permittee shall sample and submit *E. coli* results at the frequency of once every week for three (3) months. If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

19.c Effluent Limitations/Monitoring Requirements:

Design flow is 0.02 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the permit expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		NA		NA	NL	1/D	Estimate
pH	1	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
CBOD ₅	1, 2	10 mg/L	0.76 kg/day	15 mg/L	1.1 kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	2	10 mg/L	0.76 kg/day	15 mg/L	1.1 kg/day	N/A	N/A	1/M	Grab
DO	1, 2	NA		NA		7.0 mg/L	NA	1/D	Grab
Total Kjeldahl Nitrogen (TKN)	1, 2	3.0 mg/L	0.23 kg/day	4.5 mg/L	0.34 kg/day	N/A	N/A	1/M	Grab
<i>E. coli</i> (Geometric Mean) ^a	1	126 n/100mL		NA		NA	NA	1/W ^b	Grab
Total Residual Chlorine (after contact tank)	3	NA		NA		1.0 mg/L	NA	1/D	Grab
Total Residual Chlorine (after dechlorination)	1	0.008 mg/L		0.010 mg/L		NA	NA	1/D	Grab
Total Phosphorus	1, 2	2.0 mg/L	0.15 kg/day	NA		NA	NA	1/M	Grab

The basis for the limitations codes are:

1. Water Quality Standards
2. Best Professional Judgment
3. DEQ Disinfection Guidance

MGD = Million gallons per day.

NA = Not applicable.

NL = No limit; monitor and report.

S.U. = Standard units.

1/D = Once every day.

1/M = Once every month.

1/W = Once every week.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

- a. Samples shall be collected between 10:00 a.m. and 4:00 p.m.
- b. The permittee shall sample and submit *E. coli* results at the frequency of once every week for three (3) months. If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean. The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

20. Other Permit Requirements:

- a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more than 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be <1.0 mg/L with any TRC <0.6 mg/L considered a system failure. Monitoring at numerous STPs has concluded that a TRC residual of 1.0 mg/L is an adequate indicator of compliance with the *E. coli* criteria. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

- a) 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.
- b) Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO) by September 21, 2012. Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- f) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200 C, and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class IV operator.
- g) Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. This facility is required to meet a Reliability Class of II until a Certificate to Operate is issued for the 0.01 MGD or 0.02 MGD flow tier, at which time the facility shall meet a Reliability Class of I.
- j) Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- k) Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
- l) TMDL Reopener. This special condition allows the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. **Permit Section Part II:** Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. **Changes to the Permit from the Previously Issued Permit:**

- a) Special Conditions:
 - 1) The Instream Monitoring Special Condition has been removed.
- b) Monitoring and Effluent Limitations:
 - 1) The frequency of monitoring for *E. coli* has been changed from twice per month to once per week with the option of reduction in monitoring to once per quarter, with four samples being taken in the same month in accordance with the current Virginia WQS, effective January 6, 2011.
 - 2) The Total Residual Chlorine (TRC) limits have changed from 0.0090 mg/L monthly average and 0.011 mg/L weekly average to 0.008 mg/L monthly average and 0.010 mg/L weekly average because the discharge is considered to be continuous instead of intermittent.
 - 3) The monitoring frequency for TKN has been changed for once per month to twice per month at the 0.0045 MGD flow tier.
- c) Other:
 - 1) Part II of the permit has been updated to include VELAP language.

24. **Variances/Alternate Limits or Conditions:** None

25. **Public Notice Information:**

First Public Notice Date: 5/10/2012 Second Public Notice Date: 5/17/2012

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3837, anna.westernik@deq.virginia.gov. See **Attachment 8** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. **303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):**

Outfall 001 discharges to an unnamed tributary of Flat Run at Rivermile 0.10. This unnamed tributary discharges into another unnamed tributary of Flat Run at Rivermile 1.58, Flat Run, and Lake of the Woods. After Flat Run exits Lake of the Woods, it enters the Rapidan River. There are no monitoring stations on the unnamed tributaries or Flat Run.

The 2.68 mile segment of the Rapidan River from the confluence of Wilderness Run and the Rapidan River to the confluence of the Rapidan River with Middle Run is listed as a Category 4A water because while it does not support the Recreation Use (*E. coli*), a Bacteria TMDL was approved by EPA on December 5, 2007. This TMDL includes a bacteria wasteload allocation for this facility of 3.48E+10 cfu/year for *E. coli* bacteria. This permit has an *E. coli* limit of 126 n/100 mL; therefore, this facility can neither cause nor contribute to the observed violation of the bacteria wasteload allocation when operating in accordance with permit limits.

A mercury TMDL is scheduled to be completed by 2022 because excursions above the fish tissue value for mercury were recorded at DEQ Monitoring Station 3-RAP006.53 on the Rapidan River.

27. Additional Comments:

Previous Board Action(s):

On June 8, 2010, the permittees, Kenneth and Lora Dotson, entered into a Letter of Agreement (LOA) with DEQ. The LOA was established to address permit limit exceedances that occurred between April 2009 and January 2010. The LOA authorized a plan and schedule associated with a pilot study to evaluate adjustment of the treatment process allowing the facility to consistently meet permit effluent limits. The time period covered by the LOA extended through April 2011.

The permittees, Kenneth and Lora Dotson, entered into a proposed Consent Order on November 4, 2011, due to continued effluent limit exceedances that occurred during and subsequent to the less formal enforcement mechanism of the LOA. The Order requires Mr. and Mrs. Dotson to submit a plan and schedule to address how the Facility will meet the limits set forth in the VPDES Permit and to increase monitoring for one calendar year. The Order includes a civil charge. Attachment 9 contains a copy of the Schedule of Compliance contained in Appendix A of the Order, which pertains to the corrective action plan for the facility. The Order was heard before the State Water Control Board on April 5-6, 2012.

Staff Comments: A public meeting, hosted by Lake of the Woods, was held on April 17, 2012 at the Lake of the Woods Clubhouse. DEQ representatives and the permittees, Kenneth and Lora Dotson, discussed the draft permit, the consent order, and a proposed sewage treatment plant upgrade. DEQ staff and the permittees answered questions from interested citizens. The meeting was filmed for the Lake of the Wood television station.

In addition to being published in the Orange Review, the public notice was placed in Lake Currents, the Lake of the Woods newsletter.

Public Comment: An e-mail was received from Charles M. Browne, a Lake of the Woods resident, on May 22, 2012. He had questions regarding the level of treatment of the sewage from the Locust Grove Town Center STP; the effect of the discharge on Flat Run, the Rapidan River, and the Rappahanock River; and confirmation regarding the volume of discharge and the location of the receiving stream and the outfall. DEQ staff telephoned him and discussed the permit and subsequently sent Mr. Browne copies of the draft permit and fact sheet. In the telephone conversation, Mr. Browne stated that he would like to visit the outfall. Staff suggested he contact the permittee and provided contact information for him to do so.

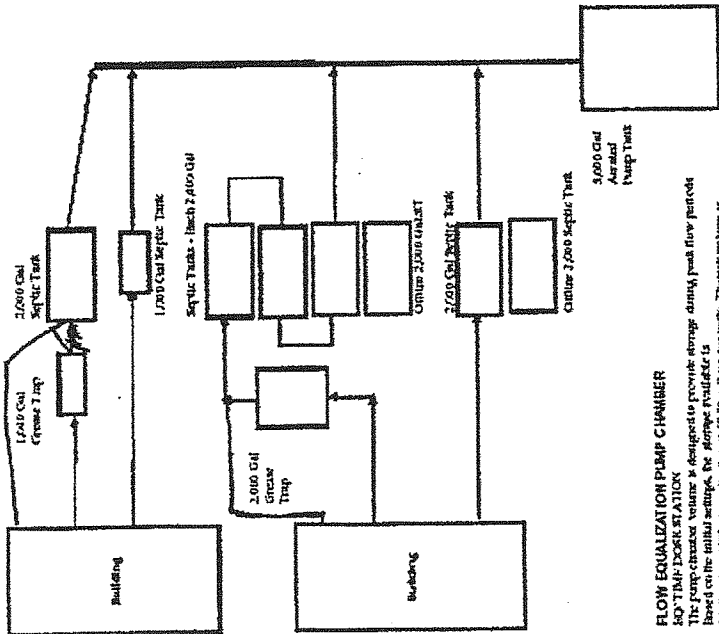
EPA Checklist: The checklist can be found in **Attachment 10**.

List of Attachments

Attachment 1	Facility Schematic/Diagram
Attachment 2	Topographic Map 184(D), Mine Run
Attachment 3	Site Inspection Memorandum
Attachment 4	Planning Statement
Attachment 5	Derivation of 90 th Percentile Effluent pH and Temperature
Attachment 6	Water Quality Criteria (Source: 9 VAC 25-260-00, et seq.)
Attachment 7	Derivation of Effluent Limits for Ammonia and TRC
Attachment 8	Public Notice
Attachment 9	Appendix A--Schedule of Compliance of the Consent Order
Attachment 10	EPA Checklist

(updated 12/15/11)

LCTC WASTEWATER TREATMENT OVERVIEW



FLOW EQUALIZATION PUMP CHAMBER

THE PUMP CHAMBER VOLUME IS DESIGNED TO PROVIDE AVERAGE DURING PEAK FLOW PERIODS. THE PUMP CHAMBER VOLUME IS DESIGNED TO PROVIDE AVERAGE DURING PEAK FLOW PERIODS. THE PUMP CHAMBER VOLUME IS DESIGNED TO PROVIDE AVERAGE DURING PEAK FLOW PERIODS.

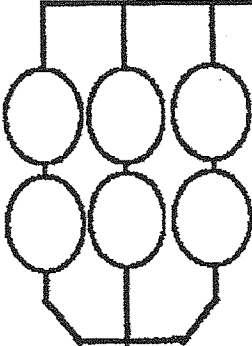
SEPTIC TANK PRETREATMENT

Provided this includes:
 A 1,000 gallon grease trap per 2,000 gallons (see the notes)
 A 1,000 gallon septic tank per 2,000 gallons (see the notes)
 A 1,000 gallon septic tank per 2,000 gallons (see the notes)
 A 1,000 gallon septic tank per 2,000 gallons (see the notes)
 Total septic tank septic volume - 11,000 gallons (see note there are also installed for the traps)

SECONDARY TREATMENT

1 Aeration Tank (10' x 20' x 6') per 2,000 GPD per
 Aeration Tank (10' x 20' x 6') per 2,000 GPD per
 Aeration Tank (10' x 20' x 6') per 2,000 GPD per
 Aeration Tank (10' x 20' x 6') per 2,000 GPD per

1 Unit - each 1000 gallons



1 Unit - each 1000 gallons
 1 Unit - each 1000 gallons
 1 Unit - each 1000 gallons

DISINFECTION

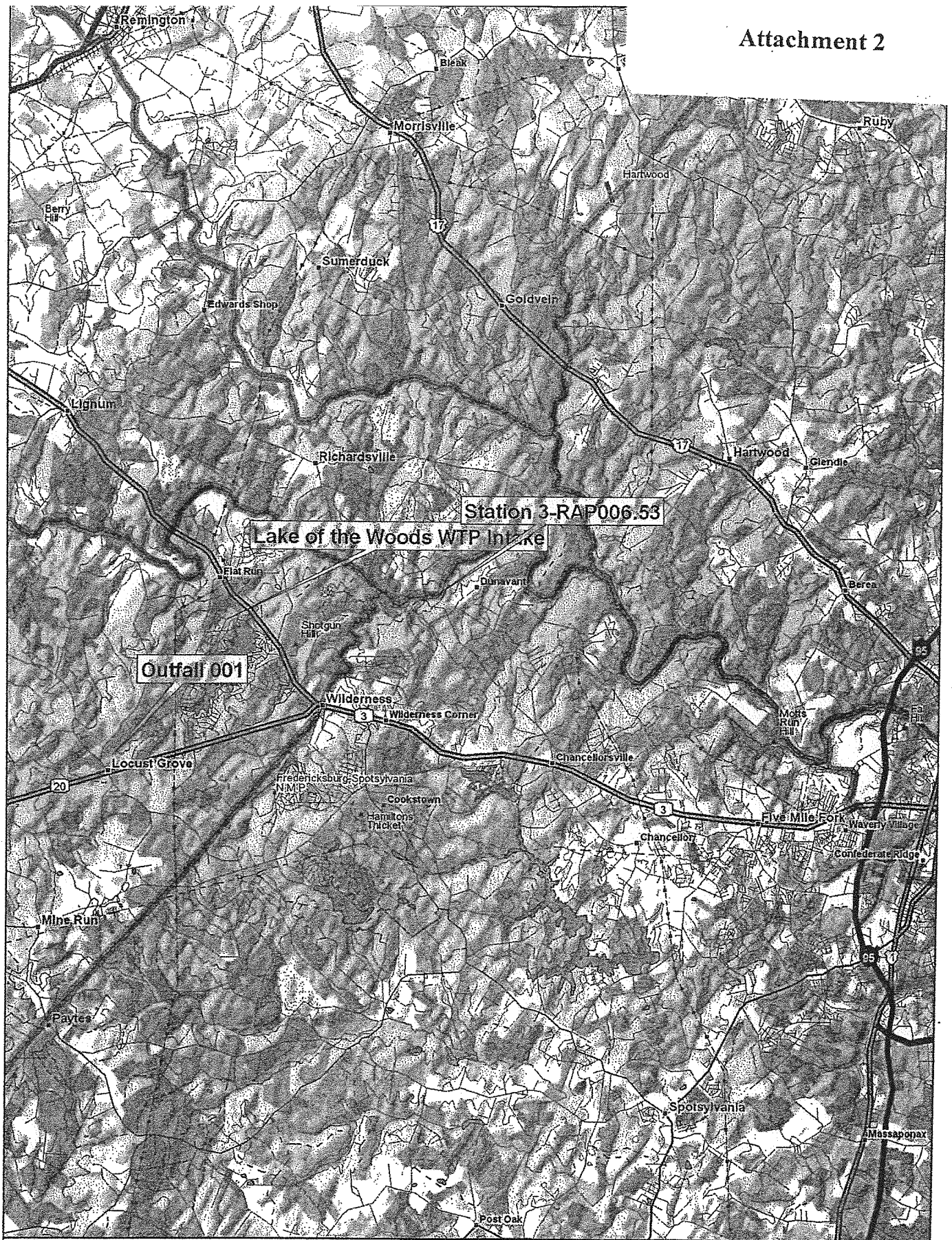
1 Unit (12' x 12' x 6') to Chlorine Contact Tank
 1 Unit (12' x 12' x 6') to Chlorine Contact Tank
 1 Unit (12' x 12' x 6') to Chlorine Contact Tank
 1 Unit (12' x 12' x 6') to Chlorine Contact Tank

Screen Portion of Building

Concrete Air
 Concrete 7' x
 Final discharge

WETLAND FOR FISHING

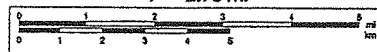
1 Unit (12' x 12' x 6') to Chlorine Contact Tank
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 1 Unit (12' x 12' x 6') to Chlorine Contact Tank



DELORME

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www.delorme.com

Scale 1 : 175,000
1" = 2.76 mi





MEMORANDUM

Northern Regional Office

TO: File

FROM: Anna Westernik, Water Permit Writer

DATE: November 21, 2011

SUBJECT: November 21, 2011 Site Visit to the Locust Grove Town Center STP (VA0091961) in Locust Grove, Virginia

On November 21, 2011, April Young (DEQ Water Compliance Inspector) and myself visited the abovementioned facility to observe the facility operations prior to reissuance of the permit.

The sewage treatment plant serves a commercial development consisting of retail shops, churches, offices, restaurants, and a laboratory. The sewage treatment plant is located to the rear of the property.

The treatment plant serving this facility includes septic tanks, an aerated surge/transfer pump tank, three package Multi-Flo aerobic treatment plants, a tablet chlorinator, a chlorine contact tank, a constructed wetland, auxiliary mechanical post aeration in the wetland withdrawal structure, wetland bypass tablet dechlorination, and step post aeration.

Two septic tanks exit both the old and new building at the Locust Grove Town Center. They serve to reduce solids and organic loading to the package plants. The tankage provided includes grease traps and septic tanks. Additionally shopping center employees dispose of grease in containers picked up by Valley Proteins. Flow from the septic tank overflows to a 5,000 gallon aerated pump tank that pretreats the sewage leaving the septic tanks before it enters the Multi-Flo Treatment Units. Three treatment units, each rated to treat a flow of 1,500 gpd, have been provided for secondary treatment.

A pump out area behind the CCCF Praise and Worship Center was damaged and needs to be repaired. Installation of barriers around the pump out pipes is recommended. The flow to the Multiflo units appears to be unequal. There is more water and foaming in some and more mixed liquors in others.

After the effluent leaves the Multi-Flo Treatment Units, it is treated by an alum feed system for phosphorus reduction and is disinfected via tablet chlorination. An auxiliary polishing wetland has been provided after chlorination to assist in the removal of nutrients. The wetland can be bypassed in cold weather or during maintenance events. When the Certificate to Operate was issued in March 2008, the constructed wetland was considered a redundant part of the treatment plant design and the wetland was assigned no treatment credit.

Sodium sulfite tablet dechlorination is provided whenever the wetland is bypassed and may be used after the wetland if the operator feels it is needed to ensure that the chlorine limits are met when the effluent is discharged to state waters.

Mechanical post-aeration at the wetland and final post-aeration at the receiving stream using cascade, step aeration is provided before discharge.

Discharge is to an ephemeral stream, which is an unnamed tributary of Flat Run. On this date, the stream was approximately two feet wide at the point of discharge. The stream is moderately meandering with approximately 25% pools. The bottom of the stream is silt covered with leaf litter. The area above the outfall was muddy with significant discoloration, whereas the area below the outfall was clear. No aquatic life was observed on this date. Cows were present near the stream bed in the area above the discharge.

The unnamed tributary of Flat Run flows to Flat Run and then Lake of the Woods. There is approximately a two mile distance between the proposed discharge and Lake of the Woods. Numerous tributaries enter the receiving stream and Flat Run before it meets Lake of the Woods.

Beaver dams were observed downstream of the discharge near Yucca Lane. DEQ staff also traveled to the area of Lake of the Woods near Route 601, where Flat Run enters the lake, to observe the waterway. A small amount of algae was present in this area. However the lake water was clear.

To: Anna Westernik
 From: Katie Conaway
 Date: October 21, 2011
 Subject: Planning Statement for the Locust Grove Town Center WWTP
 Permit Number: VA0091961

Discharge Type: Municipal
 Discharge Flow: 0.0045 MGD with Proposed Expansions to 0.01 MGD and 0.02 MGD
 Receiving Stream: Flat Branch, UT
 Latitude / Longitude: 38° 18' 36.5" N / 77° 48' 30.1" W
 Streamcode: 3-XHA
 Waterbody: VAN-E18R
 Water Quality Standards: Class III, Section 4
 Rivermile: 000.10
 Drainage Area: 0.08 mi²

1. Is there monitoring data for the receiving stream?

No.

- If yes, please attach latest summary.
- If no, where is the nearest downstream monitoring station.

The nearest downstream DEQ monitoring station with ambient data is Station 3-RAP006.53, located on the Rapidan River at the Route 610 bridge crossing. Flat Run is a tributary to the Rapidan River. Station 3-RAP006.53 is located approximately 10.4 rivermiles downstream from the Outfall of VA0091961. The following is a monitoring summary for the Rapidan River at Station 3-RAP006.53, as taken from the 2010 Integrated Assessment:

Class III, Section 4.

DEQ ambient, biological, and fish tissue/sediment monitoring station 3-RAP006.53, at Route 610. DEQ sediment station 3-RAP006.49, just downstream from the Route 610 bridge crossing. Citizen monitoring stations 3RAP-C14-SOS.

Note: This assessment unit was noted with an observed effect for total phosphorus for the 2006 Integrated Assessment. While nutrients will not be assessed until nutrient standards are adopted for free-flowing streams, the observed effect will remain due to the previous assessment. For the 2006 assessment window, four of 30 samples (13.3%) exceeded the total phosphorus screening value of 0.20 mg/L.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. Citizen monitoring finds a medium probability of adverse conditions for biota; however, DEQ biological monitoring at upstream and downstream locations indicate that the benthic community is

not impaired. The aquatic life use is considered fully supporting, but noted for observed effect for total phosphorus. The wildlife use is considered fully supporting.

The fish consumption use is impaired for mercury in fish tissue. Three excursions above the fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue was recorded in three species of fish (3 total samples) collected in 2006 at monitoring station 3-RAP006.53 (American eel, rock bass, smallmouth bass).

2. Is the receiving stream on the current 303(d) list?

No.

- If yes, what is the impairment?

N/A

- Has the TMDL been prepared?

N/A

- If yes, what is the WLA for the discharge?

N/A

- If no, what is the schedule for the TMDL?

N/A

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment?

Yes. There are several downstream impairments on the Rapidan River:

- If yes, what is the impairment?

Recreational Use Impairment: Sufficient excursions from the maximum *E. coli* bacteria criterion (14 of 40 samples - 35.0%) were recorded at DEQ's ambient water quality monitoring station (3-RAP006.53) at the Route 610 crossing to assess this stream segment as not supporting of the recreation use goal for the 2010 water quality assessment.

Fish Consumption Use Impairment – Mercury: Excursions above the water quality criterion based fish tissue value (TV) of 300 parts per billion (ppb) for mercury (Hg) in fish tissue were recorded in three species of fish (American eel, rock bass, smallmouth bass) collected at monitoring station 3-RAP006.53 during 2006.

- Has a TMDL been prepared?

Recreational Use Impairment: Yes. EPA Approved 12/5/2007

Fish Consumption Use Impairment: No

- Will the TMDL include the receiving stream?

The TMDL will not/did not specifically include the receiving stream. However, all TMDLs consider upstream point source discharges.

- Is there a WLA for the discharge?

Yes. The Bacteria TMDL for the Rapidan River Basin included a WLA for this facility of $3.48E+10$ cfu/year of *E. coli* bacteria.

- What is the schedule for the TMDL?

Fish Consumption Use Impairment – Mercury: TMDL Due by 2022

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information on other VPDES permits or VADEQ monitoring stations located within a 2 mile radius of the facility. In addition, please provide information on any drinking water intakes located within a 5 mile radius of the facility

There are no DEQ monitoring stations within a 2 mile radius of this facility. There is one VPDES permit within a 2 mile radius of this facility:

VA0078131 – Locust Grove Elementary School

There are no drinking water intakes within a 5 mile radius of this facility.

Effluent pH and Temperature Data

September 2010 -- August 2011

Date	pH	Temperature
1-Sep-10	7.4	25
2-Sep-10	7.5	25
3-Sep-10	7.5	25
4-Sep-10	7.5	25
11-Sep-10	7.9	23
6-Sep-10	7.8	23
7-Sep-10	7.6	23
8-Sep-10	7.8	24
9-Sep-10	8.2	23
10-Sep-10	7.5	23
11-Sep-10	7.6	23
12-Sep-10	8.0	21
13-Sep-10	7.7	18
14-Sep-10	6.9	22
15-Sep-10	6.8	22
16-Sep-10	7.1	23
17-Sep-10	7.3	24
18-Sep-10	7.2	23
19-Sep-10	7.8	20
20-Sep-10	6.6	22
21-Sep-10	7.0	23
22-Sep-10	7.3	24
23-Sep-10	7.1	23
24-Sep-10	7.2	23
25-Sep-10	8.2	22
26-Sep-10	8.3	20
27-Sep-10	8.1	21
28-Sep-10	7.6	22
29-Sep-10	7.8	22
30-Sep-10	7.1	21
1-Oct-10	7.9	20
2-Oct-10	7.3	18
3-Oct-10	8.2	16
4-Oct-10	7.3	19
11-Oct-10	8.1	19
6-Oct-10	8.0	21
7-Oct-10	8.0	20
8-Oct-10	8.1	21
9-Oct-10	7.8	16
10-Oct-10	7.9	17
11-Oct-10	7.6	23
12-Oct-10	7.7	22
14-Oct-10	6.6	20
15-Oct-10	6.1	13
16-Oct-10	7.3	15
17-Oct-10	6.9	16
18-Oct-10	6.3	18
19-Oct-10	6.1	18
20-Oct-10	6.3	18
21-Oct-10	6.1	18
22-Oct-10	7.5	17
23-Oct-10	7.8	18

Effluent pH and Temperature Data

September 2010 -- August 2011

Date	pH	Temperature
24-Oct-10	7.6	18
25-Oct-10	7.3	19
26-Oct-10	7.8	19
27-Oct-10	7.4	19
28-Oct-10	7.0	19
29-Oct-10	6.8	19
30-Oct-10	6.9	18
31-Oct-10	7.7	15
1-Nov-10	6.5	10
2-Nov-10	6.4	15
3-Nov-10	7.4	13
4-Nov-10	7.2	15
5-Nov-10	7.7	17
6-Nov-10	7.4	15
7-Nov-10	7.2	15
8-Nov-10	6.1	9
9-Nov-10	7.4	14
10-Nov-10	7.6	11
11-Nov-10	7.6	15
12-Nov-10	7.7	16
13-Nov-10	7.6	10
14-Nov-10	7.4	11
15-Nov-10	7.0	14
16-Nov-10	6.5	14
17-Nov-10	7.3	15
18-Nov-10	7.7	15
19-Nov-10	7.6	16
20-Nov-10	7.8	14
21-Nov-10	7.6	10
22-Nov-10	7.8	13
23-Nov-10	7.7	14
24-Nov-10	7.2	14
25-Nov-10	7.4	14
26-Nov-10	7.2	13
27-Nov-10	7.3	13
28-Nov-10	7.6	11
29-Nov-10	7.5	9
30-Nov-10	7.0	12
1-Dec-10	7.0	12
2-Dec-10	7.7	12
3-Dec-10	7.4	11
4-Dec-10	7.5	10
5-Dec-10	7.6	10
6-Dec-10	7.2	9
7-Dec-10	7.4	9
8-Dec-10	7.6	7
9-Dec-10	7.4	7
10-Dec-10	7.6	8
11-Dec-10	7.4	8
12-Dec-10	7.6	8
13-Dec-10	7.6	10
14-Dec-10	7.7	10

Locust Grove Town Center STP (VA0091961)

Effluent pH and Temperature Data

September 2010 -- August 2011

<u>Date</u>	<u>pH</u>	<u>Temperature</u>
15-Dec-10	7.6	7
16-Dec-10	7.4	7
17-Dec-10	7.6	6
18-Dec-10	7.5	8
19-Dec-10	7.5	9
20-Dec-10	7.8	8
21-Dec-10	7.2	6
22-Dec-10	7.6	7
23-Dec-10	7.3	7
24-Dec-10	7.2	6
25-Dec-10	7.0	5
26-Dec-10	7.2	5
27-Dec-10	7.4	5
28-Dec-10	6.9	7
29-Dec-10	6.2	8
30-Dec-10	6.1	5
31-Dec-10	6.8	6
1-Jan-11	7.5	8
2-Jan-11	7.3	7
3-Jan-11	7.7	5
4-Jan-11	7.6	7
5-Jan-11	7.5	7
6-Jan-11	7.6	6
7-Jan-11	7.3	7
8-Jan-11	7.6	7
9-Jan-11	7.8	2
10-Jan-11	7.6	5
11-Jan-11	7.5	4
12-Jan-11	7.7	5
13-Jan-11	7.8	7
14-Jan-11	7.9	4
15-Jan-11	7.6	4
16-Jan-11	7.7	4
17-Jan-11	7.7	4
18-Jan-11	7.6	5
19-Jan-11	7.8	7
20-Jan-11	7.7	6
21-Jan-11	7.8	7
22-Jan-11	7.7	4
23-Jan-11	7.6	5
24-Jan-11	7.2	4
25-Jan-11	7.4	6
26-Jan-11	7.4	5
27-Jan-11	7.5	5
28-Jan-11	7.4	5
29-Jan-11	7.4	5
30-Jan-11	7.5	4
31-Jan-11	7.4	4
1-Feb-11	7.8	5
2-Feb-11	7.1	6
3-Feb-11	7.7	7
4-Feb-11	7.5	7

Effluent pH and Temperature Data

September 2010 -- August 2011

Date	pH	Temperature
5-Feb-11	7.4	7
6-Feb-11	7.6	5
7-Feb-11	7.5	5
8-Feb-11	7.6	6
9-Feb-11	7.5	6
10-Feb-11	7.6	6
12-Feb-11	7.8	5
13-Feb-11	7.2	7
14-Feb-11	7.5	7
15-Feb-11	7.7	6
16-Feb-11	7.7	7
17-Feb-11	7.6	8
18-Feb-11	7.5	10
19-Feb-11	7.6	7
20-Feb-11	7.4	10
21-Feb-11	7.7	7
22-Feb-11	7.6	8
23-Feb-11	7.7	7
24-Feb-11	7.5	7
25-Feb-11	7.4	7
26-Feb-11	7.2	8
27-Feb-11	7.4	7
28-Feb-11	7.0	10
1-Mar-11	7.0	9
2-Mar-11	7.5	9
3-Mar-11	7.8	7
4-Mar-11	7.4	7
5-Mar-11	7.4	11
6-Mar-11	7.2	9
7-Mar-11	7.1	10
8-Mar-11	7.2	8
9-Mar-11	7.0	8
10-Mar-11	7.0	9
11-Mar-11	7.1	9
12-Mar-11	6.9	9
13-Mar-11	7.0	9
14-Mar-11	7.4	8
15-Mar-11	7.5	9
16-Mar-11	7.0	8
17-Mar-11	7.3	10
18-Mar-11	7.5	11
19-Mar-11	7.4	11
20-Mar-11	7.3	13
21-Mar-11	7.4	12
22-Mar-11	7.5	13
23-Mar-11	7.5	12
24-Mar-11	6.7	11
25-Mar-11	6.3	12
26-Mar-11	6.7	11
27-Mar-11	6.9	12
28-Mar-11	7.1	9
29-Mar-11	7.4	10

Effluent pH and Temperature Data

September 2010 -- August 2011

Date	pH	Temperature
30-Mar-11	7.2	10
31-Mar-11	7.3	10
1-Apr-11	7.2	9
2-Apr-11	6.9	10
3-Apr-11	7.0	10
4-Apr-11	7.4	10
5-Apr-11	7.4	11
6-Apr-11	7.4	12
7-Apr-11	7.4	13
8-Apr-11	7.6	11
9-Apr-11	7.1	14
10-Apr-11	7.2	13
11-Apr-11	7.3	13
12-Apr-11	7.5	14
13-Apr-11	7.4	14
14-Apr-11	7.1	12
15-Apr-11	7.4	14
16-Apr-11	7.2	13
17-Apr-11	7.1	13
18-Apr-11	7.4	14
19-Apr-11	7.2	14
20-Apr-11	7.2	14
21-Apr-11	7.3	13
22-Apr-11	7.6	15
23-Apr-11	7.1	16
24-Apr-11	7.6	15
25-Apr-11	7.2	20
26-Apr-11	7.6	20
27-Apr-11	7.3	19
28-Apr-11	7.1	18
29-Apr-11	7.1	19
30-Apr-11	7.0	16
1-May-11	6.8	17
2-May-11	7.1	17
3-May-11	7.4	18
4-May-11	7.4	17
5-May-11	7.6	17
6-May-11	7.4	16
7-May-11	7.1	16
8-May-11	7.0	16
9-May-11	7.6	16
10-May-11	7.5	16
11-May-11	7.5	16
12-May-11	7.6	17
13-May-11	7.8	18
14-May-11	7.8	18
15-May-11	7.4	17
16-May-11	7.5	17
17-May-11	6.7	17
18-May-11	7.2	18
19-May-11	7.1	18
20-May-11	7.1	18

Effluent pH and Temperature Data

September 2010 -- August 2011

Date	pH	Temperature
21-May-11	6.9	16
22-May-11	6.8	16
23-May-11	7.3	18
24-May-11	7.3	19
25-May-11	7.2	19
26-May-11	7.3	19
27-May-11	7.3	19
28-May-11	7.4	22
29-May-11	7.3	20
30-May-11	7.5	21
31-May-11	7.5	22
1-Jun-11	7.4	23
2-Jun-11	7.5	22
3-Jun-11	7.6	22
4-Jun-11	7.5	22
5-Jun-11	6.9	22
6-Jun-11	7.3	23
7-Jun-11	7.6	22
8-Jun-11	7.4	22
9-Jun-11	7.2	22
10-Jun-11	7.6	21
11-Jun-11	7.1	24
12-Jun-11	7.2	22
13-Jun-11	7.4	21
14-Jun-11	7.6	20
15-Jun-11	7.6	20
16-Jun-11	7.5	20
17-Jun-11	7.5	21
18-Jun-11	7.6	22
19-Jun-11	7.4	22
20-Jun-11	7.4	22
21-Jun-11	7.7	21
22-Jun-11	7.5	21
23-Jun-11	7.6	21
24-Jun-11	7.7	22
25-Jun-11	7.6	22
26-Jun-11	7.4	24
27-Jun-11	7.4	23
28-Jun-11	7.4	22
29-Jun-11	7.3	22
30-Jun-11	7.4	22
1-Jul-11	7.7	22
2-Jul-11	7.8	22
3-Jul-11	7.5	23
4-Jul-11	7.6	22
5-Jul-11	7.7	22
6-Jul-11	7.5	22
7-Jul-11	7.6	22
8-Jul-11	7.5	23
9-Jul-11	7.8	23
10-Jul-11	7.4	25
11-Jul-11	7.9	24

Effluent pH and Temperature Data

September 2010 -- August 2011

Date	pH	Temperature
12-Jul-11	7.8	23
13-Jul-11	7.6	22
14-Jul-11	7.5	22
15-Jul-11	7.5	21
16-Jul-11	7.5	23
17-Jul-11	7.4	24
18-Jul-11	7.5	24
19-Jul-11	7.5	24
20-Jul-11	7.4	23
21-Jul-11	7.4	23
22-Jul-11	7.4	23
23-Jul-11	7.4	23
24-Jul-11	7.3	23
25-Jul-11	7.3	23
26-Jul-11	7.6	23
27-Jul-11	7.8	24
28-Jul-11	7.6	24
29-Jul-11	7.6	24
30-Jul-11	7.6	24
31-Jul-11	7.6	25
1-Aug-11	7.9	24
2-Aug-11	7.8	24
3-Aug-11	7.7	23
4-Aug-11	7.8	23
5-Aug-11	7.7	23
6-Aug-11	7.7	23
7-Aug-11	7.9	24
8-Aug-11	7.8	24
9-Aug-11	7.5	24
10-Aug-11	7.7	24
11-Aug-11	7.6	24
12-Aug-11	7.6	23
13-Aug-11	7.4	23
14-Aug-11	7.7	23
15-Aug-11	7.6	23
16-Aug-11	7.7	23
18-Aug-11	7.9	23
19-Aug-11	7.9	23
20-Aug-11	7.8	23
21-Aug-11	7.8	23
22-Aug-11	7.7	23
23-Aug-11	7.6	25
24-Aug-11	7.8	25
25-Aug-11	7.8	25
28-Aug-11	7.4	29
29-Aug-11	8	23
31-Aug-11	8	23
90th Percentile	7.8	23
10th Percentile	7.0	

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name:

Locust Grove Town Center STP

Permit No.: VA0091661

Receiving Stream:

Flat Run, UT

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) =
90% Temperature (Annual) =
90% Temperature (Wet season) =
90% Maximum pH =
10% Maximum pH =
Tier Designation (1 or 2) =
Public Water Supply (PWS) Y/N? =
Trout Present Y/N? =
Early Life Stages Present Y/N? =

Stream Flows

1Q10 (Annual) =
7Q10 (Annual) =
30Q10 (Annual) =
1Q10 (Wet season) =
30Q10 (Wet season) =
30Q5 =
Harmonic Mean =

Mixing Information

Annual - 1Q10 Mix =
- 7Q10 Mix =
- 30Q10 Mix =
Wet Season - 1Q10 Mix =
- 30Q10 Mix =

Effluent Information

Mean Hardness (as CaCO₃) =
90% Temp (Annual) =
90% Temp (Wet season) =
90% Maximum pH =
10% Maximum pH =
Discharge Flow =

Parameter (ug/l unless noted)	Background			Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
	Conc.	Acute	Chronic	HH (PWS)	HH	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	-	-	na	9.9E+02	9.9E+02	-	-	na	9.9E+02	-	-	-	-	-	-	na	9.9E+
Acrolein	0	-	-	na	9.3E+00	9.3E+00	-	-	na	9.3E+00	-	-	-	-	-	-	na	9.3E+
Acrylonitrile ^c	0	-	-	na	2.5E+00	2.5E+00	-	-	na	2.5E+00	-	-	-	-	-	-	na	2.5E+
Aldrin ^c	0	3.0E+00	-	na	5.0E-04	5.0E-04	3.0E+00	-	na	5.0E-04	-	-	-	-	3.0E+00	-	na	5.0E-
Ammonia-N (mg/l)	0	1.2E+01	1.84E+00	na	-	-	1.2E+01	1.8E+00	na	-	-	-	-	-	1.2E+01	1.8E+00	na	-
Ammonia-N (mg/l) (High Flow)	0	1.2E+01	3.18E+00	na	-	-	1.2E+01	3.2E+00	na	-	-	-	-	-	1.2E+01	3.2E+00	na	-
Anthracene	0	-	-	na	4.0E+04	4.0E+04	-	-	na	4.0E+04	-	-	-	-	-	-	na	4.0E+
Antimony	0	-	-	na	6.4E+02	6.4E+02	-	-	na	6.4E+02	-	-	-	-	-	-	na	6.4E+
Arsenic	0	3.4E+02	1.5E+02	na	-	-	3.4E+02	1.5E+02	na	-	-	-	-	-	3.4E+02	1.5E+02	na	-
Barium	0	-	-	na	-	-	-	-	na	-	-	-	-	-	-	-	na	-
Benzene ^c	0	-	-	na	5.1E+02	5.1E+02	-	-	na	5.1E+02	-	-	-	-	-	-	na	5.1E+
Benzidine ^c	0	-	-	na	2.0E-03	2.0E-03	-	-	na	2.0E-03	-	-	-	-	-	-	na	2.0E-
Benzo (a) anthracene ^c	0	-	-	na	1.8E-01	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	na	1.8E-
Benzo (b) fluoranthene ^c	0	-	-	na	1.8E-01	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	na	1.8E-
Benzo (k) fluoranthene ^c	0	-	-	na	1.8E-01	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	na	1.8E-
Benzo (a) pyrene ^c	0	-	-	na	1.8E-01	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	na	1.8E-
Bis(2-Chloroethyl) Ether ^c	0	-	-	na	5.3E+00	5.3E+00	-	-	na	5.3E+00	-	-	-	-	-	-	na	5.3E+
Bis(2-Chloroisopropyl) Ether ^c	0	-	-	na	6.5E+04	6.5E+04	-	-	na	6.5E+04	-	-	-	-	-	-	na	6.5E+
Bis(2-Ethylhexyl) Phthalate ^c	0	-	-	na	2.2E+01	2.2E+01	-	-	na	2.2E+01	-	-	-	-	-	-	na	2.2E+
Bromoforn ^c	0	-	-	na	1.4E+03	1.4E+03	-	-	na	1.4E+03	-	-	-	-	-	-	na	1.4E+
Butylbenzylphthalate	0	-	-	na	1.9E+03	1.9E+03	-	-	na	1.9E+03	-	-	-	-	-	-	na	1.9E+
Cadmium	0	1.8E+00	6.6E-01	na	-	-	1.8E+00	6.6E-01	na	-	-	-	-	-	1.8E+00	6.6E-01	na	-
Carbon Tetrachloride ^c	0	-	-	na	1.6E+01	1.6E+01	-	-	na	1.6E+01	-	-	-	-	-	-	na	1.6E+
Chlordane ^c	0	2.4E+00	4.3E-03	na	8.1E-03	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	-	-	-	-	2.4E+00	4.3E-03	na	8.1E-
Chloride	0	8.6E+05	2.3E+05	na	-	-	8.6E+05	2.3E+05	na	-	-	-	-	-	8.6E+05	2.3E+05	na	-
TRC	0	1.9E+01	1.1E+01	na	-	-	1.9E+01	1.1E+01	na	-	-	-	-	-	1.9E+01	1.1E+01	na	-
Chlorobenzene	0	-	-	na	1.6E+03	1.6E+03	-	-	na	1.6E+03	-	-	-	-	-	-	na	1.6E+

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorobromomethane ^c	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene ^c	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	--
DDD ^c	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E
DDE ^c	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E
DDT ^c	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	--
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+
3,3-Dichlorobenzidine ^c	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E
Dichlorobromomethane ^c	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+
1,2-Dichloroethane ^c	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane ^c	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+
1,3-Dichloropropene ^c	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+
Dieldrin ^c	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	--
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+
2,4-Dimethylphenol	0	--	--	na	8.6E+02	--	--	na	8.6E+02	--	--	--	--	--	--	--	--	--	--	na	8.6E+
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+
D-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+
2,4-Dinitrotoluene ^c	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-
1,2-Diphenylhydrazine ^c	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	--
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	--
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	--
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wastebed Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	-	-	na	2.1E+03	-	-	na	2.1E+03	-	-	-	-	-	-	-	-	-	-	na	2.1E+
Fluoranthene	0	-	-	na	1.4E+02	-	-	na	1.4E+02	-	-	-	-	-	-	-	-	-	-	na	1.4E+
Fluorene	0	-	-	na	5.3E+03	-	-	na	5.3E+03	-	-	-	-	-	-	-	-	-	-	na	5.3E+
Foaming Agents	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Guthion	0	-	1.0E-02	na	-	-	1.0E-02	na	-	-	-	-	-	-	-	-	-	-	1.0E-02	na	-
Heptachlor ^c	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	-	-	-	-	-	-	-	-	5.2E-01	3.8E-03	na	7.9E-
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	-	-	-	-	-	-	-	-	5.2E-01	3.8E-03	na	3.9E-
Hexachlorobenzene ^c	0	-	-	na	2.9E-03	-	-	na	2.9E-03	-	-	-	-	-	-	-	-	-	-	na	2.9E-
Hexachlorobutadiene ^c	0	-	-	na	1.8E+02	-	-	na	1.8E+02	-	-	-	-	-	-	-	-	-	-	na	1.8E+
Hexachlorocyclohexane	0	-	-	na	4.9E-02	-	-	na	4.9E-02	-	-	-	-	-	-	-	-	-	-	na	4.9E-
Alpha-BHC ^c	0	-	-	na	1.7E-01	-	-	na	1.7E-01	-	-	-	-	-	-	-	-	-	-	na	1.7E-
Hexachlorocyclohexane	0	-	-	na	1.8E+00	-	-	na	1.8E+00	-	-	-	-	-	-	-	-	-	-	na	1.8E+
Beta-BHC ^c	0	-	-	na	1.1E+03	-	-	na	1.1E+03	-	-	-	-	-	-	-	-	-	-	na	1.1E+
Gamma-BHC ^c (Lindane)	0	9.5E-01	-	na	3.3E+01	9.5E-01	-	na	3.3E+01	-	-	-	-	-	-	-	-	9.5E-01	-	na	3.3E+
Hexachlorocyclopentadiene	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Hexachloroethane ^c	0	-	2.0E+00	na	-	-	2.0E+00	na	-	-	-	-	-	-	-	-	-	-	2.0E+00	na	-
Hydrogen Sulfide	0	-	-	na	1.8E-01	-	-	na	1.8E-01	-	-	-	-	-	-	-	-	-	-	na	1.8E-
Indeno (1,2,3-cd) pyrene ^c	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Iron	0	-	-	na	9.6E+03	-	-	na	9.6E+03	-	-	-	-	-	-	-	-	-	-	na	9.6E+
Isophorone ^c	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Kepone	0	-	0.0E+00	na	-	-	0.0E+00	na	-	-	-	-	-	-	-	-	-	-	0.0E+00	na	-
Lead	0	4.9E+01	5.6E+00	na	-	4.9E+01	5.6E+00	na	-	-	-	-	-	-	-	-	-	4.9E+01	5.6E+00	na	-
Malathion	0	-	1.0E-01	na	-	-	1.0E-01	na	-	-	-	-	-	-	-	-	-	-	1.0E-01	na	-
Manganese	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Mercury	0	1.4E+00	7.7E-01	-	-	1.4E+00	7.7E-01	-	-	-	-	-	-	-	-	-	-	1.4E+00	7.7E-01	-	-
Methyl Bromide	0	-	-	na	1.5E+03	-	-	na	1.5E+03	-	-	-	-	-	-	-	-	-	-	na	1.5E+
Methylene Chloride ^c	0	-	-	na	5.9E+03	-	-	na	5.9E+03	-	-	-	-	-	-	-	-	-	-	na	5.9E+
Methoxychlor	0	-	3.0E-02	na	-	-	3.0E-02	na	-	-	-	-	-	-	-	-	-	-	3.0E-02	na	-
Mirex	0	-	0.0E+00	na	-	-	0.0E+00	na	-	-	-	-	-	-	-	-	-	-	0.0E+00	na	-
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	-	-	-	-	-	-	-	-	1.0E+02	1.1E+01	na	4.6E+
Nitrate (as N)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Nitrobenzene	0	-	-	na	6.9E+02	-	-	na	6.9E+02	-	-	-	-	-	-	-	-	-	-	na	6.9E+
N-Nitrosodimethylamine ^c	0	-	-	na	3.0E+01	-	-	na	3.0E+01	-	-	-	-	-	-	-	-	-	-	na	3.0E+
N-Nitrosodiphenylamine ^c	0	-	-	na	6.0E+01	-	-	na	6.0E+01	-	-	-	-	-	-	-	-	-	-	na	6.0E+
N-Nitrosodi-n-propylamine ^c	0	-	-	na	5.1E+00	-	-	na	5.1E+00	-	-	-	-	-	-	-	-	-	-	na	5.1E+
Nonylphenol	0	2.8E+01	6.6E+00	-	-	2.8E+01	6.6E+00	na	-	-	-	-	-	-	-	-	-	2.8E+01	6.6E+00	na	-
Parathion	0	6.5E-02	1.3E-02	na	-	6.5E-02	1.3E-02	na	-	-	-	-	-	-	-	-	-	6.5E-02	1.3E-02	na	-
PCB Total ^c	0	-	1.4E-02	na	6.4E-04	-	1.4E-02	na	6.4E-04	-	-	-	-	-	-	-	-	-	-	na	6.4E-
Pentachlorophenol ^c	0	8.7E+00	6.7E+00	na	3.0E+01	8.7E+00	6.7E+00	na	3.0E+01	-	-	-	-	-	-	-	-	8.7E+00	6.7E+00	na	3.0E+
Phenol	0	-	-	na	8.6E+05	-	-	na	8.6E+05	-	-	-	-	-	-	-	-	-	-	na	8.6E+
Pyrene	0	-	-	na	4.0E+03	-	-	na	4.0E+03	-	-	-	-	-	-	-	-	-	-	na	4.0E+
Radionuclides	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Gross Alpha Activity (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Beta and Photon Activity (mrem/yr)	0	-	-	na	4.0E+00	-	-	na	4.0E+00	-	-	-	-	-	-	-	-	-	-	na	4.0E+
Radium 226 + 228 (pCi/L)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-
Uranium (ug/l)	0	-	-	na	-	-	-	na	-	-	-	-	-	-	-	-	-	-	-	na	-

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	2.0E+01	5.0E+00	na
Silver	0	1.0E+00	--	na	1.0E+00	--	na	--	--	--	--	--	--	1.0E+00	--	na
Sulfate	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
1,1,2,2-Tetrachloroethane ^c	0	--	--	na	--	--	na	4.0E+01	--	--	--	--	--	--	--	na
Tetrachloroethylene ^c	0	--	--	na	--	--	na	3.3E+01	--	--	--	--	--	--	--	na
Thallium	0	--	--	na	--	--	na	4.7E-01	--	--	--	--	--	--	--	na
Toluene	0	--	--	na	--	--	na	6.0E+03	--	--	--	--	--	--	--	na
Total dissolved solids	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Toxaphene ^c	0	7.3E-01	2.0E-04	na	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	7.3E-01	2.0E-04	na
Tributyltin	0	4.6E-01	7.2E-02	na	4.6E-01	7.2E-02	na	--	--	--	--	--	--	4.6E-01	7.2E-02	na
1,2,4-Trichlorobenzene	0	--	--	na	--	--	na	7.0E+01	--	--	--	--	--	--	--	na
1,1,2-Trichloroethane ^c	0	--	--	na	--	--	na	1.6E+02	--	--	--	--	--	--	--	na
Trichloroethylene ^c	0	--	--	na	--	--	na	3.0E+02	--	--	--	--	--	--	--	na
2,4,6-Trichlorophenol ^c	0	--	--	na	--	--	na	2.4E+01	--	--	--	--	--	--	--	na
2-(2,4,5-Trichlorophenoxy)propanoic acid (Silvex)	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Vinyl Chloride ^c	0	--	--	na	--	--	na	--	--	--	--	--	--	--	--	na
Zinc	0	6.5E+01	6.6E+01	na	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	6.5E+01	6.6E+01	na

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "c" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for human health
= (0.1(WQC - background conc.) + background conc.) for acute and chronic
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than ti
minimum QL's provided in agency
guidance

10/25/2011 4:04:00 PM

Facility = Locust Grove Town Center STP

Chemical = Ammonia

Chronic averaging period = 30

WLAa = 12.1

WLAc = 1.84

Q.L. = 0.2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 3.71251297188601

Average Weekly limit = 3.71251297188601

Average Monthly Limit = 3.71251297188601

The data are:

10/27/2011 4:25:26 PM

Facility = Locust Grove Town Center STP

Chemical = TRC

Chronic averaging period = 4

WLAa = 19

WLAc = 11

Q.L. = 100

samples/mo. = 30

samples/wk. = 8

Summary of Statistics:

observations = 1

Expected Value = 200

Variance = 14400

C.V. = 0.6

97th percentile daily values = 486.683

97th percentile 4 day average = 332.758

97th percentile 30 day average = 241.210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity

Maximum Daily Limit = 16.0883226245855

Average Weekly limit = 9.59676626920107

Average Monthly Limit = 7.9737131838758

The data are:

200

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Orange County, Virginia.

PUBLIC COMMENT PERIOD: May 11, 2012 to 5:00 p.m. on June 11, 2012

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Kenneth and Lora Dotson, 33225 Constitution Highway, Locust Grove, VA 22508; VA0091961

NAME AND ADDRESS OF FACILITY: Locust Grove Town Center STP, 32301 Constitution Highway, Locust Grove, VA 22508

PROJECT DESCRIPTION: Kenneth and Lora Dotson have applied for a reissuance of a permit for the private Locust Grove Town Center STP. The applicant proposes to release treated sewage wastewaters from commercial areas at a rate of 0.020 million gallons per day into a water body. Sludge from the treatment process will be transferred to another sewage treatment plant for further processing and disposed of by land application. The facility proposes to release the treated sewage into an unnamed tributary of Flat Run in Orange County in the Rappahannock River Watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, Carbonaceous Biochemical Oxygen Demand-5 day (cBOD₅), total suspended solids, total kjeldahl nitrogen, dissolved oxygen, total phosphorus, *E. Coli*, and total residual chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Anna T. Westernik

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov Fax: (703) 583-3821

APPENDIX A SCHEDULE OF COMPLIANCE

The Permittee shall:

1. Within 30 days of the effective date of this Order submit to DEQ for review and approval, a plan to address how the Facility will meet the limits set forth in the Permit.
2. Monitor the influent monthly for TKN, cBOD₅, TSS, and TP for one calendar year beginning the month after the effective date of this order. Influent samples shall be collected simultaneously with the effluent samples and the subsequent analytical data submitted to DEQ with the Discharge Monitoring Report.

Unless otherwise specified in this Order, the Permittee shall submit all requirements of Appendix A of this Order to:

Virginia Department of Environmental Quality
Attn: Enforcement Staff
13901 Crown Court
Woodbridge, VA 22193

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Locust Grove Town Center STP- Permit Reissuance
NPDES Permit Number:	VA0091961
Permit Writer Name:	Anna T. Westernik
Date:	October 31, 2011

Major ☒ [X]Minor ☐ []Industrial ☐ []Municipal ☒ [X]**I.A. Draft Permit Package Submittal Includes:**

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?			X
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?	X		
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?		X	
a. Has a TMDL been developed and approved by EPA for the impaired water?			X
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			X
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?	X		
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (POTWs)

	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?		X	
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

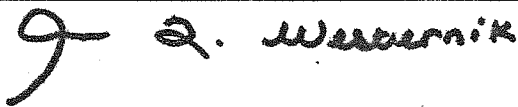
II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions			Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			X		
List of Standard Conditions – 40 CFR 122.41					
Duty to comply	Property rights	Reporting Requirements			
Duty to reapply	Duty to provide information	Planned change			
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance			
not a defense	Monitoring and records	Transfers			
Duty to mitigate	Signatory requirement	Monitoring reports			
Proper O & M	Bypass	Compliance schedules			
Permit actions	Upset	24-Hour reporting			
		Other non-compliance			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Anna T. Westernik</u>
Title	<u>Environmental Specialist, Senior II</u>
Signature	<u></u>
Date	<u>October 31, 2011</u>